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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/387,788	09/01/1999	CHRISTER OSTBERG	040070-422	3017

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EXAMINER

WAXMAN, ANDREW

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/387,788	OSTBERG, CHRISTER
	Examiner	Art Unit
	Andrew M Waxman	2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 October 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 2-17 is/are allowed.
- 6) Claim(s) 1-17, 22 and 23 is/are rejected.
- 7) Claim(s) 18-21 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-17, 22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Love (WO 94/18752).

Regarding claims 1, 5, and 16, Love discloses an apparatus including a plurality of fingers, a searcher, a channel estimator, and a Doppler frequency estimator, including a normalizer configured to normalize at least two channel estimates, configured to use two or more channel estimates. See FIG. 3, page 3 lines 13 – 21, and page 8 lines 11 – 21.

Regarding claims 3 and 6, Love further discloses the Doppler frequency estimator including a subtractor. See FIG. 3, and page 8 lines 17 – 21.

Regarding claims 4 and 7, Love further discloses the Doppler frequency estimator including a multiplier. See FIG. 3, and page 8 lines 17 – 21.

Regarding claims 9 – 13, Love further discloses Doppler frequency estimator including a velocity estimator, a combiner, and the channel estimator further configured to receive a first and a second group of pilot symbols. See FIGs. 2 and 3, page 3 lines 13 – 21, and page 8 lines 11 – 21.

Regarding claims 14 and 15, Love further discloses Doppler frequency estimator configured to use channel estimates, or an average of the channel estimates, from the first and second group of pilot symbols. See FIGs. 2 and 3, page 3 lines 13 – 21, and page 8 lines 11 – 21.

Regarding claim 17, Love further discloses the Doppler frequency estimator used to adjust at least one finger. See FIGs. 2 and 3, page 3 lines 13 – 21, and page 8 lines 11 – 21.

Regarding claims 22 and 23, Love further discloses the apparatus further comprising a plurality of channel estimators and a plurality of Doppler frequency estimators, and a combiner configured to calculate a weighted combination of Doppler frequency of frequency estimates. See FIGs. 2 and 3, page 3 lines 13 – 21, and page 8 lines 11 – 21.

Response to Arguments

Applicant's arguments with respect to claims 1, ²⁻²³ 23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dettmar discloses a method for measuring frequency shift in digital communications using synchronization sequence and channel step response.

Sandin discloses a method and apparatus for coherently averaged power estimation.

Thielecke discloses a multiple access digital transmission system and a radio base station and a receiver for use in such a system.

Burns discloses a shared correlator system and method for direct-sequence CDMA demodulation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M Waxman whose telephone number is (703) 305-8086. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Andrew M. Waxman


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 11/5/03